3.15 CULTURAL RESOURCES

Cultural resources are districts, sites, buildings, structures, and objects that contain evidence of past human activities. The National Historic Preservation Act (NHPA) of 1966 established the federal government's policy and programs on historic preservation, including the National Register of Historic Places (National Register). Cultural resources that are listed or eligible for listing on the National Register are called "historic properties." Section 3.15.2.2 lists the criteria used to evaluate cultural resources for National Register eligibility. To comply with the NHPA and NEPA, federal agencies must determine whether their actions could have an effect on historic properties. Processing an application for incidental take (the HCP) under the ESA is the responsibility of the FWS and NMFS. Managing the proposed Headwaters Reserve will be the responsibility of the BLM and the state of California. The impacts of these actions must be evaluated under NEPA and the NHPA. In addition, CDF is responsible for reviewing and either approving or rejecting the SYP. Therefore, impacts of the SYP to cultural resources must be evaluated under the California FPR and CEQA.

This section evaluates the potential impacts to historic properties. It provides a prehistoric, ethnographic, and historic background for the PALCO and Elk River Timber Company lands in Humboldt County. Archaeological investigations on the PALCO and Elk River Timber Company lands are summarized from the available records. Significance thresholds and potential effects of the proposed HCP and SYP, and of acquisition and management of the Headwaters Reserve are discussed in Sections 3.15.2.2 and 3.15.2.3, respectively. Cumulative effects are discussed in Section 3.15.2.4. As presented in Sections 3.15.2.3 and 3.15.2.4, none of the proposed action alternatives is expected to result in significant direct effects to cultural resources.

3.15.1 Affected Environment

3.15.1.1 Regional Prehistory

The earliest solid evidence of human habitation in the high elevation interior of the North Coast Range of mountains dates back approximately 5,000 years (Keter, 1995, 1996; Hildebrandt and Hayes, 1993; Frederickson, 1984). Much of what is known about this area comes from the work of Hayes and Hildebrandt (1983, 1984, 1985) from several excavation seasons at numerous sites along Pilot Ridge and additional excavations within the Pilot Creek watershed, northeast of the Project Area (Keter, 1995). Hayes and Hildebrandt have proposed a chronology for this region, based largely on their work and on paleoenvironmental data gathered in the area.

According to Hayes and Hildebrandt (1993), the earliest known human inhabitants of the region lived in small, highly mobile bands. Subsistence of the earliest inhabitants of the region emphasized the hunting of big game (e.g., elk and deer). These mobile bands may have occupied portions of the Project Area from time to time as they traveled in search of big game and a wide range of other seasonally available resources. Artifacts associated with this subsistence pattern, referred to regionally as available resources. Artifacts associated

with this subsistence pattern, referred to regionally as the Borax Lake Pattern, include Borax Lake wide-stemmed projectile points, milling slabs, hand stones, relatively large serrated bifaces, edge flaked spall tools, and cobble tools. During this time, the climate of the high elevation interior of the northern North Coast Range of mountains was approximately 1.2 to 2.1°C warmer than it is today. Around 3,000 years ago, the climate began to cool, and archaeological sites from this time period show a corresponding shift in subsistence strategy. Semisedentary villages appear in the archaeological record, along with specialized resource procurement sites, and there is evidence of a greater emphasis on food storage and processing. Seasonally available resources, such as acorns, hard seeds, or deer were gathered and/or processed at specialized camps before being transported back to the village. This subsistence strategy is referred to regionally as the Mendocino Pattern. Artifacts associated with this pattern include a variety of projectile points (e.g., Willits Series, Mendocino corner-notched and McKee projectile points), bifaces, flake tools, and mortars and pestles. The shift in subsistence strategy from the Borax Lake Pattern may have been related to over-hunting of big game, such as elk, to changes in the geographic ranges of various usable plants and animals as a result of the climate shift, and/or to pressures related to increasing population densities.

Sometime within the past 1,000 to 1,500 years, a complex cultural tradition developed in this area. This tradition was uniquely adapted to the coastal plain and coastal redwood zone and to the abundance of marine and riverine resources. It was similar to roughly contemporary traditions in central coastal California, but may have been more closely tied to the marine-riverine culture of coastal California and Washington. This pattern, known regionally as the Gunther Pattern, is the predominant cultural pattern observed in the region from 1,500 years ago to historic times. Sites from this time period show evidence of continuing population growth and density and intensified use of lowland subsistence resources (e.g., fish and acorns). Greater emphasis was placed on processing and storing foods for the winter. Sites away from the villages are more limited and appear to have increasingly specialized uses. Artifacts characteristic of this period include a variety of projectile points (Trinity corner-notched, Trinity diamond-shaped, and Gunther series projectile points), as well as milling equipment (the hopper mortar and pestle). European-manufactured materials begin to make an appearance at sites from historic times.

Linguistic evidence indicates that, between 1,100 and 900 years ago, ancestors of ethnographically known Indian groups migrated into northwestern California, probably from east of the Great Lakes (Algonkian-speaking peoples) and from western Canada (Athapaskan-speaking peoples). The ancestors of the Algonkian Wiyot were probably the first to enter (around 1,100 years before the present), followed approximately 200 years later by the ancestors of the Algonkian Yurok, with entry of Athapaskan peoples occurring as late as 1,300 A.D. These groups joined the ancestors of the Hokan-speaking Karok who were already living in the region and who had developed a hunting and gathering subsistence adaptation that made greater use of the interior hills and underused the abundant riverine and coastal areas. The Karok came to develop a specialized marine river adaptation, similar to the Wiyot and Yurok. One theory is that ancestral Karok adopted the specialized marine-riverine adaptation introduced by the Wiyot and Yurok (Hildebrandt and Hayes, 1993). Another theory is that this adaptation evolved independently amongst the various groups occupying the area (Frederickson, 1984; Chartkoff and Chartkoff, 1984).

Features of the marine-riverine adaptation include cooperative types of resource exploitation (with an emphasis on salmon fishing and, in some areas, hunting of sea mammals), the collection and storage of surplus subsistence goods, greater permanence of settlements, larger and socially stratified populations, conspicuous ceremonial displays of wealth, artistic traditions, and high quality craftsmanship in a number of materials (e.g., chipped stone, ground stone, shell, bone, wood, and basketry), development of a monetary system involving the trade of strings of dentalium shells imported from the Puget Sound Area, and growth in the importance of trade (Frederickson, 1984; Chartkoff and Chartkoff, 1984).

The earliest comprehensive cultural study of the Project Area was conducted by L. L. Loud around Humboldt Bay and the lower courses of the Mad and Eel rivers, within the aboriginal territory of the Wiyot tribe. Loud gathered extensive information on Wiyot culture, settlements, and placenames from ethnographic informants and recorded over 100 archaeological sites and Wiyot settlements, none of which is within the Project Area (Loud, 1918). Loud also excavated a large shellmound site (CA-HUM-67) on Gunther Island in Humboldt Bay, the site of a historic massacre of a large group of Wiyot in 1860 (Loud, 1918). The Gunther Island archaeological site, estimated to be 1,500 years old, has also become recognized as the type-site for the Gunther Pattern, (Frederickson, 1984). Similar sites have been excavated further to the north, outside the Project Area, and primarily along the coast (Heizer and Mills, 1991; Bickel, 1979; Theodoratus, Chartkoff and Chartkoff, 1979; Elsasser and Heizer, 1966; Gould, 1966).

No excavations have been conducted within the Project Area to date. In general, little archaeological work has been done on interior sites in the redwood belt of northwestern California where the large shell middens and sophisticated Gunther Pattern artifacts of coastal sites have been the main attraction (Frederickson, 1984). As described above, Hildebrandt and Hayes have done extensive studies of inland high elevation prehistoric sites on the ridgeline between the Mad River and South Fork of the Trinity River, east of the redwood belt and northeast of the Project Area, (Hayes and Hildebrandt, 1983; 1984; 1985). Their work has led to the listing of the Pilot Ridge Historical and Archaeological District on the National Register of Historic Places. The district includes 109 sites, most of which are prehistoric. Additional information comes from excavations of the Three Chop Village and Nightbirds' Retreat sites in Mendocino County, considerably south of the Project Area (Layton, 1990). However, these Mendocino studies were concerned primarily with patterns associated with the arrival of the Western Pomo in western Mendocino County. The applicability of these studies to the prehistory of interior Humboldt County is not yet clear. Numerous sites have been surveyed within the Eel River Basin, particularly within the North Fork Eel River and Van Duzen watersheds, primarily on public lands. However, there are few data from excavations in these areas (Keter, 1996).

Further work at interior, high elevation sites may yield important information regarding the earliest settlement of northwestern California and may contribute to the synthesis of Californian and Pacific Northwest traditions and theories of environmental adaptation. Prehistoric sites on the PALCO and Elk River Timber Company lands also may yield pre-contact ethnographic information on the Nongatl and other tribes made virtually extinct following European contact.

3.15.1.2 Ethnography/Ethnohistory

The ethnographic period includes the late prehistoric era and aboriginal cultures in-

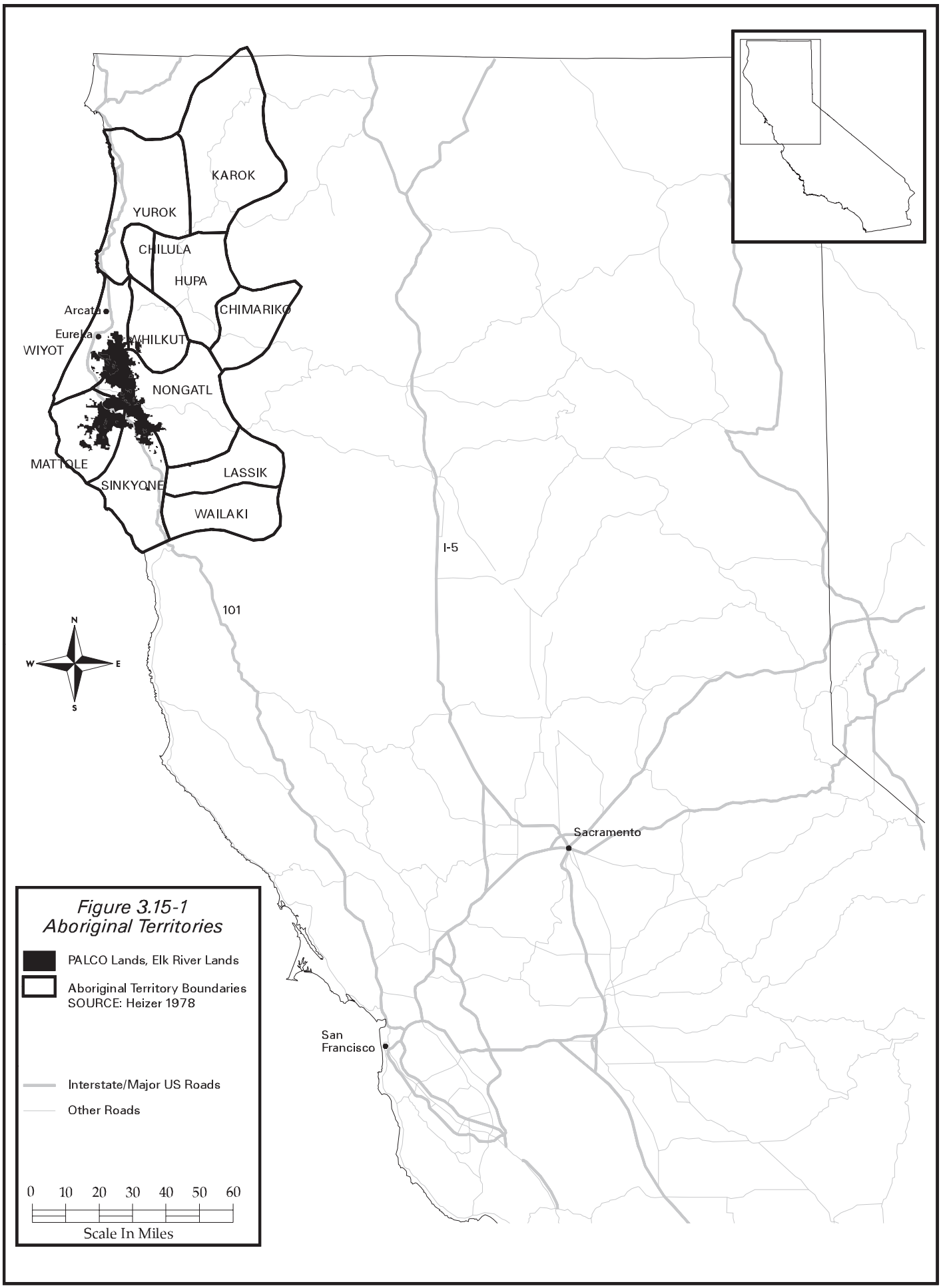
habiting northwestern California at the time of European contact. Indian groups whose aboriginal territory includes PALCO and Elk River Timber Company lands are the descendants of the earliest settlers of the area discussed above (Figure 3.15-1). These groups include the Wiyot, the Bear River, the Mattole, the Sinkyone, and the Nongatl. The Wiyot group occupied lands along the coast, south of Little River and north of the Bear River, and to the east to Kneeland Prairie and Iaqua Butte (Elsasser, 1978a; Loud, 1918). The Bear River and Mattole (now the Bear River-Mattole) group occupied lands south of the Wiyot from the coast to the headwaters of the Eel River. The Nongatl occupied lands east of the Wiyot, primarily within the Van Duzen River watershed. The Sinkyone occupied lands south of the Wiyot, between Mattole and Nongatl country (Elsasser, 1978b). The Whilkut, Hupa, Chilula, and Yurok, to the north of the Project Area, are also likely to have made seasonal subsistence use of the area, and intertribal marriage and trade also probably involved movement across territorial boundaries (Wallace, 1978; Pilling, 1978; Davis, 1974).

Although ethnographic information for the northwest corner of California is abundant, ethnographic information specific to the Project Area is scarce. Little ethnographic information is available on the Athapaskan groups on the east side of the Project Area, in particular the Nongatl, who were killed by Europeans or removed to reservations in the mid-1800s. There are no known living Nongatl descendants (Keter, 1995; personal communication, Deborah Treadway, Native American Heritage Commission, 1997).

The abundance of resources allowed native peoples in the area to establish relatively permanent villages with homes of redwood and cedar plank construction built over deep rectangular pits. Male village leaders gained personal prestige by accumulating wealth. Territorial rights to fishing and hunting areas were established and passed on within a family. No Indian villages or settlements are recorded within the Project Area (Elsasser, 1978a,b; Wallace, 1978; Pilling, 1978; Kroeber, 1925).

In his 1913 survey, Loud noted a major Indian trail that extended from Roberts Prairie at the fork of the Elk River, to Kneeland Prairie, crossing PALCO and Elk River Timber Company land. Another trail, just outside the Project Area, extended from the southern end of the bay, through the fork of Salmon Creek to the confluence of Palmer Creek with the Eel River. In addition, Loud recorded several Indian villages near the Project Area, but outside the project boundaries. These included two villages at the Salmon Creek fork, one on the south bank of the Eel River, near present-day Fortuna (opposite the trail that terminates at the Eel River and Palmer Creek), one near the mouth of the Elk River, and one near the mouth of Freshwater Creek (Loud, 1918; Heizer, 1978c). Given the incomplete ethnographic record for the Nongatl and other tribes on the east side of the Project Area, the possibility that unrecorded village sites and trails exist within this area cannot be ruled out. Within the past 10 to 15 years, a number of occupation sites and trails have been found in the Bridgeville area, along the Van Duzen River, directly east of the Project Area (Keter, 1995).

In the mid-1800s, increasing contacts and conflicts between the Euro-Americans and Indians developed in the forested areas east of Humboldt Bay. A number of incidents, such as the massacre of a large group of Wiyot peoples on Gunther Island in 1860, worsened relations between these groups (Hoover et al., 1990). In 1851, to help resolve the situation in California, U.S. President Millard Fillmore appointed three commissioners to draw up treaties with the various tribes. Though 18 treaties were drawn up and signed, the U.S. Senate


KAROK
YUROK
CHILULA
HUPA
CHIMARIKO
Arcata
Eureka
WHILKUT
WIYOT
NONGATL
MATTOLE
SINKYONE
LASSIK
WAILAKI
I-5
101
N
W
E
S
Sacramento
San
Francisco
Figure 3.15-1
Aboriginal Territories
PALCO Lands, Elk River Lands
Aboriginal Territory Boundaries
SOURCE: Heizer 1978
Interstate/Major US Roads
Other Roads
0 10 20 30 40 50 60
Scale In Miles

eventually rejected them under pressure from settlers who complained that the treaties gave away the most valuable farming and mineral lands (Heizer, 1978a,b; Pevar, 1992). Thus, none of the California treaties was ever ratified.

In 1853, Congress authorized the Secretary of the Interior to set up five reservations in association with military posts in California to maintain the peace between the whites and Indians. Between 1860 and 1865, hostilities between Euro-Americans and Indians resulted in the Indian Wars of Northwestern California (Keter, 1995). Large numbers of Indians were forcibly taken and held as prisoners at Fort Humboldt, established in 1853 at Camp Bucksport, west of the Project Area. By 1864, most of the Indian groups had agreed to stop fighting and were moved to either the newly established Hoopa Valley Reservation in Humboldt County, north of the Project Area, or to the Round Valley Reservation in Mendocino County. Fort Humboldt was abandoned shortly after.

In the late 1800s, several reservations and rancherias were established by Presidential order for Indians in the Project Area. Rancherias in California are essentially small reservations, consisting of several families, usually with a single tribal affiliation. Between 1954 and 1966, Congress "terminated" over 100 tribes, most in Oregon and California, thereby abolishing tribal governments and ending the federal government's trust relationship with these tribes, as well as many special services and rights previously guaranteed (Anderson and Heizer, 1978; Ellison, 1978).

Today several rancherias remain in the region. The Table Bluff Rancheria to the west and Blue Lake Rancheria to the north of the Project Area are home to several Wiyot families. The Rohnerville Rancheria was terminated in 1958, but is still occupied by several families from the Bear River Band of the Wiyot. The Hoopa Valley Reservation to the north is the largest reservation in California and is primarily occupied by Hupa, Whilkut, Chilula, and Yurok peoples. The Yurok Reservation, also to the north, extends 1 mile to either side of the Klamath River. The Yurok Tribe has recently obtained Tribal Historic Preservation Office (THPO) status. This means that they act as the SHPO on Yurok tribal lands. The Yurok Tribe has also recently been made the CHRIS Information Center for all of Humboldt and Del Norte counties.

3.15.1.3 Euro-American History

Historic sites found on the PALCO and Elk River Timber Company lands provide evidence of extensive logging operations in the area and include logging camps and debris, as well as the remains of railroads associated with logging operations. Thus, this section is keyed largely to the history of logging and railroading in the Project Area. Some detail is provided on early logging technology and equipment. Additional historical information is available in the references cited.

The entrance to Humboldt Bay was discovered in 1806, and exploration of the Project Area began in the mid-1800s, motivated largely by the desire to find good routes for supply pack trains from the Humboldt Bay communities to the Trinity area to the east where gold had been found. In 1848, one such exploration party, led by Dr. Josiah Gregg, may have passed through the Project Area. A frequently traveled supply trail to the mines may have also passed within the Project Area. This trail led to Kneeland Prairie, around the Iaqua Buttes, and across the mountains to the Trinity River (Fields, 1986). Another frequently traveled route through the project lands was established in the mid-1870s and led from Kneeland's Prairie, approximately eight miles east of Eureka at the north end of the Project Area, to Round Valley in Mendocino County. Originally called the "Kneeland Prairie and Round Valley Road" (later the

"Humboldt and Mendocino County Road"), the route eventually extended 74 miles to the town of Blocksburg. Daily stages from the Humboldt and Mendocino Stage Company traveled the route from April to December. Stages also ran between Hydesville and Eureka (Fields, 1986).

The first lumber mills in the Humboldt region were the Pioneer Mill, built by Eddy & White in 1850, and the Ryan, Duff & Company Mill, completed in 1852. Both were located on Humboldt Bay. By 1854, the number of mills on the bay had grown to nine (Carranco and Labbe, 1975). Many of the earliest mills were semiportable, allowing the mills to be moved to the timber. Skid roads and teams of oxen were used to carry timber the short distance from fall areas to the mill. As the logging industry expanded in the area, larger, more permanent, commercial mills were built, and tram roads provided a means of moving the timber to the mill. By 1854, there were over 20 miles of tramways and primitive railroads in Humboldt County (Carranco and Labbe, 1975). The early logging camps consisted of a number of bunkhouses, a cookhouse, a storehouse, a repair shop, and a barn. The large lumber companies were generally self-sufficient with their own dairy farms, cattle ranches, orchards, vegetable gardens, and blacksmith repair shops (Fields, 1986).

In 1875, the steam locomotive made its appearance in northern California coast logging, coinciding with the growth of the locomotive industry in San Francisco. That same year, the South Bay RR & Land Company built five miles of railroad along Salmon Creek from the southern end of Humboldt Bay, just outside the Project Area, to serve its Milford Mill and Lumber Company (Carranco and Labbe, 1975). In the 1880s, this railroad was extended as part of the Eel River and Eureka Railroad Company, which ran from Eureka to Hydesville and included many spurs and connecting lines to logging areas (Fields, 1986).

By the late 1800s, the steam powered "Dolbeer donkey" and "bull donkey engines" had replaced oxen on the skid roads. They were used to work the logs into the skid roads and load them aboard the tram or rail cars (Carranco and Labbe, 1975).

By the turn of the century, the trend had been established towards fewer but larger lumber companies that could better withstand the market fluctuations and price variations of the lumber industry. By 1946, 81 percent of Humboldt's timber resources were held by private ownership (Fields, 1986).

The Pacific Lumber Company was first incorporated in 1863, following the purchase of a 6,000-acre tract of land along both sides of the Eel River in Humboldt County and a subsequent purchase of 4,000 acres of land in the same area. The original purchase was made by A.W. McPherson and Henry Wetherbee, of the Albion Lumber Company in Mendocino County, with assistance from San Francisco banker William Ralston. In 1876, the company was purchased by the "Nevada Big Four," including Allen A. Curtis, who had made his fortune in Nevada's Comstock Lode silver mines.

In the early 1880s, various interests began to plan a large operation on the Eel River at Forestville, which eventually became the location of the Pacific Lumber Company mill (1882), later named Scotia (1888). In 1882, logging operations on the PALCO holdings began in earnest, and several railroad rights-of-way were purchased the same year. The same year, the Humboldt Bay and Eel River Railroad was incorporated, and grading for the railroad was started from the bay. The Forestville location was some distance from a port. As elsewhere in Humboldt County, a railroad was a critical link in getting the timber from the mills to the markets. The original Humboldt Bay and Eel River line was abandoned, and a different line was constructed several years later from Alton

Junction, on the Van Duzen River, to Scotia, and some distance south along the Eel River. In March 1882, the company's first mill, Mill A, was completed in Forestville. The new mill was equipped with all the latest state-of-the-art machinery for the redwood logging industry. Mill A was completely lost in a fire in 1895, but was rebuilt in its original spot. (http://www.palco.com).

In 1888, PALCO shipped 200 million board-feet of lumber, employed 300 people, and had attained the distinction of being the largest producer of lumber in Humboldt County. Ten years later, by 1898, PALCO was also operating the largest shingle mill in the world, producing 50,000 to 60,000 shingles per day. (http://www.palco.com).

At the turn of the century, the Southern Pacific and the Santa Fe railroad companies were competing for control over the lumber trade from the Humboldt area. In 1901, following a major shakeup in the management and ownership of PALCO, A.B. Hammond purchased a 40 percent interest in the company. Failing to gain a controlling interest, however, he sold his shares to the Santa Fe Land Development Company shortly thereafter. Simon Jones Murphy, originally from Detroit, acquired control of PALCO in 1905. His sons and associates owned it until 1986, when it became a publicly traded company (Scotia Pacific) (http://www.palco.com).

3.15.1.4 Historic Properties

A records search of the California Historical Resources Information System (CHRIS) at the Northwest Information Center at Sonoma State University was conducted for this EIS/EIR. The search covered the PALCO and Elk River Timber Company lands included in the proposed Headwaters Reserve, as well as land included in PALCO's SYP and HCP. The Project Area has been privately owned since the mid-1800s. Therefore, information available at the Northwest Information Center for the Project Area consists primarily of archaeological surveys conducted by CDF or Scotia Pacific in conjunction with submission of THPs, in compliance with the California Forest Practice Rules (FPR; Title 14, Article 14, Sections 929.1, 949.1, 969.1(a), 929.4, 949.4, and 969.4).

The records consist of descriptions of surface finds and environmental conditions. Sites in the Project Area generally have not been tested for subsurface deposits, and site boundaries and depths generally are not known. Photos, drawings, and/or site maps are available for a few of the sites. For the most part, recorded sites have not been evaluated for National Register eligibility, but were not found to be significant under the FPR and CEQA. Inspection of available lists of historic properties, including the National Register, California Inventory of Historic Resources, California Historical Landmarks, California Points of Historical Interest, and the Historic Properties Directory, did not identify any listed properties on the PALCO or Elk River Timber Company lands.

The size of the Project Area and the scope of work for this project do not permit accurate estimates of archaeological survey coverage. The intensity of survey and visibility conditions of lands surveyed vary. Lands within the proposed Headwaters Reserve are virtually unsurveyed. Two historic properties have been identified within the proposed reserve area (both on land presently owned by the Elk River Timber Company).

Roughly 20 percent, or around 40,000 acres, of the PALCO lands included in the HCP/SYP has been surveyed. None of the sites on PALCO lands is located within the proposed Headwaters Reserve. Sites recorded on the PALCO lands are presented in Table 3.15-1.

Most of the recorded sites (roughly 80 percent) on the PALCO lands are historic sites, over half of which are the re-

mains of historic railroads (old railroad grades and spurs, burnt and collapsed trestles, and other debris) associated with logging operations in the forest. Other historic sites include old logging camps, historic trails and roads, other structural remains (e.g., hunting cabins and old homesteads), and historic trash dumps. Two of the four logging camp sites contain old cookhouse structures. Recorded historic trails and roads include two old wooden plank roads with planks still intact, one old pack trail (the Old Chase Ranch pack trail), and a historic trail tread with blazed trees. Several other sites with historic structural remains are located at the north end of the PALCO lands. Two sites have intact cabins built in the 1940s. Another site includes two collapsed structures, an outhouse, and other historic features of an unknown age.

Prehistoric sites make up a small percentage (roughly 20 percent) of the recorded sites on the PALCO lands. Seven housepits were found at two sites, and one of these sites was associated with a medium to heavy lithic scatter. Historic debris were also found at both of these sites. A large chert lithic scatter was found near a main-trending ridge along a skid road, in an area severely disturbed by logging. Two prehistoric villages or temporary occupation camps were recorded, but were not tested, and the area and depth of midden at these sites is not known. One of these sites was reportedly destroyed by a bulldozer. West of the Project Area are a number of shell midden and Wiyot village sites, originally recorded and mapped by L. Loud (Loud, 1918), but more fully described in 1986 and 1987. The closest of these is site CA-HUM-54, less than 1.0 mile northwest of the PALCO property.

Approximately 10 percent of the Elk River Timber Company lands have been surveyed, and two sites have been recorded on these lands. Both of these are situated on the portion of the Elk River Timber Company lands that is proposed to be incorporated in the Headwaters Reserve under Alternatives 2 through 4 of this EIS/EIR (see Chapter 2). A location identified as "C-1071" is on Elk River Timber lands in the CHRIS prime records map. C-1071 is described as an "old deserted Indian village" under "assigned unrecorded resources" at the Northwest Information Center. No further information is available on this site. Another location is the historic Faulk Townsite and Mill, built on the South Fork of the Elk River around 1882. This location consists of piles of redwood timbers, concrete footings, scattered beds, water pipes, and corrugated metal debris.

Sites in the Project Area have the potential to yield information of importance to understanding the prehistory and history of the area. There may be additional unrecorded sites within the surveyed and unsurveyed portions of the Project Area. Discovery of sites is often complicated by dense underbrush, accumulation of duff, and inaccessible topography on the forest floor. As noted above, survey findings within the Project Area have consisted primarily of historic features, dating to the period after 1850. Discovery of prehistoric sites can be particularly difficult given poor ground surface visibility; therefore, the chances of missing prehistoric sites are higher than the chances of missing the more conspicuous historic sites.

Certain areas have a higher probability of containing archaeological sites. These include areas on which any known or suspected prehistoric site is located, areas with a relatively gradual slope (less than 15 percent, for example), and areas near a water source (within 200 meters, for example). Major continuous ridges, creek and river terraces, and margins of lakes, ponds, springs, and marshes are places more likely to contain archaeological sites. There may be a greater potential to unknowingly impact unrecorded archaeological sites in

Table 3.15-1. Cultural Resources Recorded to Date - PALCO and Elk River Timber Company Lands

	Historic Sites							Prehistoric Sites		
Parcel Number	**Historic Trails/ Roads[1/]**	**Railroad Remains[2/]**	**Mining Works[3/]**	**Logging Remains[4/]**	**Misc. Structural Remains[5/]**	**Historic Debris Scatters[6/]**	**Total - Historic Sites**	**Lithic Scatter[7/]**	**Occupation Camp[8/]**	**Total - Prehistoric Sites**
PALCO SYP/HCP Lands	5	20	---	6	4	3	**38**	5	4	**9**
ERT SYP/HCP Lands	---	---	---	---	---	---	**0**	---	---	**0**
PALCO Preserve Lands	---	---	---	---	---	---	**0**	---	---	**0**
ERT Preserve Lands	---	---	---	1	---	---	**1**	---	1	**1**
Totals	**5**	**20**	**0**	**7**	**4**	**3**		**5**	**5**	
						Historic Site Total	**39**		**Prehistoric Site Total**	**10**

1/ Includes recorded pack trails, historic logging roads, and other historic roads.

2/ Includes old railroad grades, trestles, old ties, and other railroad debris.

3/ Includes ditches, flumes, other mining-related waterways, and mining pits.

4/ Includes old logging camps, old sawmills, logging debris, and railroad remains found in association with logging remains.

5/ Includes old homesteads, cabins (e.g., hunting cabins), and other miscellaneous structures not positively associated with a single type of activity, such as logging.

6/ Includes can scatters, other dump sites, etc.

7/ Includes lithic scatters and lithic isolates not associated with occupational sites.

8/ Includes prehistoric village sites, midden sites, and housepits.

Source: CHRIS Northwest Information Center, Soroma State University

Note: PALCO and ERT lands have been only partially surveyed. This list, therefore, cannot be considered representative of either the numbers or the types of properties that may exist within unsurveyed portions of the Project Area.

these areas. Unlogged areas offer the pos sibility of encountering prehistoric sites in good context with relatively little surface disturbance.

Traditional Cultural Properties

Historic properties (cultural resources that meet the criteria for listing on the National Register) may reflect many kinds of significance, including architectural, historical, archaeological, engineering, and cultural significance. Traditional religious or cultural significance may make a property eligible for inclusion in the National Register. Historic properties with traditional religious or cultural significance to Indian or other cultural groups, are called "traditional cultural properties." the National Park Service's *National Register Bulletin 38* provides guidance to federal agencies for evaluating and documenting traditional cultural properties (Parker and King, 1982).

Indian groups in Humboldt County may have an interest in various locales, including sacred areas, places of origin, and those of cultural importance (e.g., burial sites), as well as sites where traditional gathering activities for subsistence or ceremony occurred. In addition, descendants of pioneers and miners identify with certain locations including early settlements, burial sites, and places of religious worship or family importance. To date, no traditional cultural properties have been identified within the Project Area.

The process for government-to-government consultation with Indian groups is discussed in Section 3.19. This process includes the discovery of, and consultation regarding, any potential traditional cultural properties.

3.15.2 Environmental Effects

3.15.2.1 Legal and Regulatory Environment—Cultural Resource Management

Federal Responsibilities

The NHPA of 1966 established the federal government's policy on historic preservation and the programs, including the National Register, through which that policy is implemented. Under the NHPA, historic properties include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (16 USC 470w [5])." In California, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) are the state and federal agencies responsible for overseeing the management and protection of historic properties in compliance with the NHPA.

Other federal laws and guidance that may apply to the management of cultural resources within the terms of the project include the American Indian Religious Freedom Act (AIRFA); the Native American Grave Protection and Repatriation Act (NAGPRA); National Park Service National Register Bulletin No. 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties;* an April 29, 1994, executive memorandum on government-to-government relations with Native American tribal governments; a May 24, 1996, executive order on the treatment of Native American sacred sites; a June 5, 1997, secretarial order (Order #3206 regarding American Indian tribal rights, Federal-Indian Trust Responsibilities, and the Endangered Species Act); and NEPA.

Processing an application for incidental take under the ESA is the responsibility of the USFWS and NMFS. The services must comply with all federal laws pertaining to cultural resource management. Before issuing a permit for incidental take, the services must identify potentially affected

cultural resources, determine whether significant adverse effects are likely to occur, and describe any measures necessary to mitigate for potential adverse effects.

In addition, the BLM is the federal agency that will be responsible for managing the proposed Headwaters Reserve. The effects of reserve management on cultural resources must also be considered under the federal laws and regulations.

State Responsibilities

State requirements for cultural resource management are written into the California Public Resources Code, Chapter 1.7, Section 5097.5 (*Archaeological, Paleontological, and Historical Sites*) and Chapter 1.75, beginning at Section 5097.9 (*Native American Historical, Cultural and Sacred Sites*). Additional state requirements regarding the processing of THPs are written into the California FPR, beginning at Title 14, Article 14, Section 929. Nationwide, California has the most comprehensive program for managing cultural resources in conjunction with timber harvest plans. These requirements, which apply to the proposed project, are designed to ensure that the significant archaeological and historical sites within THP units are adequately identified and protected.

Specifically, the California FPRs require that the registered professional forester (RPF) or RPF's supervised designee, complete the following (14 CCR Section 929.1):

1. Conduct an archaeological records search at the appropriate CHRIS Information Center for the area that could be affected by timber operations. The RPF may use an existing "current archaeological records check" (one that has been completed within five years of the THP submittal date) to partially or entirely satisfy this requirement.
2. Provide written notification of the THP location to Native Americans on the current Native American Contact List, which is provided to CDF by the Native American Heritage Commission (NAHC). The RPF must allow at least 10 days for notification and response before submitting the THP. In addition to this waiting period before submittal, the RPF must allow a 45-day review period following submittal.
3. Provide a professional archaeologist or a person with archaeological training (in accordance with archaeological training requirements provided at 14 CCR Section 929.4, 949.4, and 969.4) to conduct a field survey for archeological and historical sites within the site survey area. Previous archaeological surveys within the site survey area may also be used to partially or entirely satisfy this requirement.
4. Prepare a confidential archaeological addendum for the THP, that should include the following: nonconfidential administrative information and information on current or previous surveyors; confidential results of the archaeological records check, Native American consultation, and other pre-field research; a description of archaeological survey methods and procedures; a list and description of all archaeological or historic sites identified within the survey area; archaeological coverage maps; a preliminary determination of significance if damaging effects from timber operations are unavoidable; a description of specific enforceable protection measures to be implemented within the site boundaries and within 100 feet of the site boundaries; and other information regarding survey proce-

dures and resource protection measures, including follow-up interaction between the RPF and the licensed timber operator (LTO) and disclosure responsibilities of the RPF.

5. Within 30 days following approval of a THP, submit the confidential archaeological addendum and two copies of completed records for archaeological and historic sites that are significant or that were recorded, but have not been evaluated for significance, to the appropriate Information Center of the CHRIS.

CDF requires that all archaeological surveys for THPs be reviewed by CDF's regional archaeologists. Also, the interdisciplinary pre-harvest inspection team typically includes a professional archaeologist or person with archaeological training (in accordance with 14 CCR Section 929.4, 949.4, and 969.4) who conducts a second follow-up survey during the pre-harvest inspection. In addition, CDF requires that CDF's regional archaeologists periodically field-check archaeological surveys completed for THPs.

Approval of the proposed SYP is the responsibility of the state of California and of CDF in particular. Therefore, impacts of the SYP to cultural resources must be evaluated under the applicable state environmental laws (the California FPR and CEQA). The SYP and SYP EIR are designed to streamline the process for obtaining state approval for THPs. However, according to the FPR, site-specific effects not addressed in the SYP EIR must be reviewed for individual THPs.

Only a portion of the lands covered by the PALCO SYP have been surveyed for cultural resources to date. Additional surveying for the SYP is not required by CDF at this time. Since cultural resources are location-specific resources, the procedures for the management of cultural resources, laid out in detail in the FPR (Title 14, Article 14, Sections 929.1, 949.1, 969.1(a), 929.4, 949.4, and 969.4) and summarized above, must be followed for each THP filed under the SYP. CDF will review the potential impacts to cultural resources for each THP and use this information in its decision to approve or reject a THP, or to require additional survey, evaluation, and mitigation measures. Consequently, should it approve the SYP, the state would not relinquish any of its present authority over cultural resources.

3.15.2.2 Thresholds of Significance—Cultural Resources

Federal criteria for determining the significance of effects to cultural resources are explicit. Under the NHPA, a significant cultural resource is one that is eligible for listing on the National Register of Historic Places. Criteria used to evaluate the National Register eligibility of properties affected by federal agency undertakings are contained in 36 CFR 60.6 and are as follows:

> The quality of the significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> 1. That are associated with events that have made a significant contribution to the broad patterns of our history, or;
>
> 2. That are associated with the lives of persons significant in our past, or;
>
> 3. That embody the distinctive characteristics of a

type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguished entity whose components may lack individual distinction; or

4. That have yielded or may be likely to yield information important in prehistory or history.

Cultural resources that are eligible for listing on the National Register are generally at least 50 years old, although there are exceptions to this guideline for resources that meet the "criteria of exceptional significance." Criteria used to evaluate whether the actions of a federal agency will have an adverse effect on a historic property (by definition a significant effect) are also explicit and are contained in 36 CFR 800.9(b) as follows:

> An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:
>
> 1. Physical destruction, damage, or alteration of all or part of the property;
>
> 2. Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
>
> 3. Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
>
> 4. Neglect of a property resulting in its deterioration or destruction; and
>
> 5. Transfer, lease, or sale of the property.

State criteria for determining the significance of cultural resources are also explicit and are outlined in the California FPRs at 14 CCR Section 895.1. The significance criteria in the FPRs, which are the primary state criteria applied to SYPs and THPs, closely parallel the federal significance criteria. They are also the functional equivalent to the criteria presented in Appendix K of the *CEQA Guidelines and Statutes*. According to the California FPRs, a "significant archaeological or historical site" means a specific location which may contain artifacts, or objects and where evidence clearly demonstrates a high probability that the site meets one or more of the following criteria:

(a) Contains information needed to answer important scientific research questions.

(b) Has a special and particular quality such as the oldest of its type or the best available example of its type.

(c) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

(d) Involves important research questions that historical research has shown can be answered only with archaeological records.

(e) Has significant cultural or religious importance to California Indians as identified by the NAHC or Native American organizations or individuals in concurrence with the NAHC or locally federally recognized trial governments.

By comparison, Appendix K of the *CEQA Guidelines and Statutes* defines an "important archaeological resource" as one which:

A. Is associated with an event or person of:

   1. Recognized significance in California or American history, or

   2. Recognized scientific importance in prehistory.

B. Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;

C. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;

D. Is at least 100 years old and possesses substantial stratigraphic integrity; or

E. Involves important research questions that historical research has shown can be answered only with archaeological methods.

The California FPR significance criteria are similar to, but more encompassing than, the CEQA criteria. For example, the FPRs do not require that a resource be of "demonstrable public interest" and be useful in addressing research questions to be significant. For the FPRs, it is enough that the resource has research value. In effect, most sites undergoing a preliminary significance evaluation meet criterion (a) of the FPRs which requires only that the resource "contain information needed to answer important scientific research questions" (Dan Foster, CDF, personal communication, August 6, 1998.)

The California FPRs also give specific criteria for determining when a significant adverse effect occurs to an important cultural resource. According to the FPRs, a "substantial adverse change" occurs when there is "demolition, destruction, relocation, or alteration such that the significance of an archaeological or historical site would be impaired" (14 CCR Section 895.1).

3.15.2.3 Environmental Effects and Proposed Mitigation—Cultural Resources

Cultural resources are non-renewable resources. The most significant direct adverse effects to cultural resources are expected to potentially result from logging, road construction, and borrow pit extraction; all component activities provided for in the HCP. In addition, there may be impacts to cultural resources from specific land management policies within the proposed Headwaters Reserve.

HCP and SYP Components

As noted in Section 3.15.2.1 above, the FPRs would require that THPs within the HCP and SYP Project Area undergo CEQA-level review of site-specific impacts on cultural resources. CDF must consider impacts to location-specific resources, such as cultural resources, in approving or rejecting THPs. Therefore, the HCP and SYP timber harvest provisions are not expected to result in direct adverse effects to cultural resources. CDF would develop mitigation for THPs on a site-by-site basis, as needed. Mitigation associated with PALCO's lands must avoid or provide for data recovery for significant archaeological or historical sites to reduce potential adverse effects to less than significant. Mitigation for impacts to cultural resources typically consists of

avoidance or data recovery (e.g., site testing, excavation, and/or recordation). Avoidance is generally preferable to data recovery, which often involves destroying the site in the process of studying it. The required review process for THPs must mitigate any potential cultural resource impacts of the HCP and SYP timber harvest provision. This process is described in the FPRs and summarized in Section 3.15.21 of this EIS/EIR.

In addition to the timber harvest provisions, the HCP includes a number of component activities on PALCO lands, including road armoring, salvage logging, hard rock quarrying, road construction (including streambed alterations and borrow pit extraction related to new road construction), stream enhancement projects, limited recreational activities, and grazing. Some of these activities (e.g., road construction, related streambed alterations, and borrow pit extraction) would be permitted on PALCO lands as part of a THP. Streambed alterations take place primarily within the existing stream channel. Although ground disturbance is associated with these activities and there is a potential to affect cultural resources, to approve the THP, CDF would require a preliminary ground survey for cultural resources before grading activities and continuous monitoring for archaeological artifacts, sites, features, and human burials during construction. Mitigation that may be required by CDF for these specific activities would be developed during preparation of the THP.

Other activities may or may not be incorporated in a THP and may be existing activities on the PALCO lands (e.g., hard rock quarrying, grazing, and recreation) or ongoing maintenance activities on the PALCO lands (e.g., road armoring and salvage logging). Road armoring and continued hard rock quarrying would occur under all four project alternatives. Salvage logging would be allowed under Alternatives 2, 2a, and 4, but would not be allowed under Alternative 3. Road armoring and salvage logging are expected to result in less than significant impacts to cultural resources since these activities will occur within existing roaded and disturbed areas. Likewise, grazing will occur primarily in open areas already disturbed by logging. Hard rock quarrying would continue at two permitted facilities that are already operational. These areas are already disturbed and are, therefore, unlikely to contain significant undisturbed archaeological sites.

Recreational activities (including hunting by PALCO employees and limited group camping) are also expected to result in minimal impacts to cultural resources. Again, these activities will occur primarily in established camping spots on the PALCO lands. It is likely that any cultural resources that may have once existed in these areas have already been disturbed. If PALCO plans to establish new recreational sites, archaeological ground surveys may be recommended in these areas.

CDFG, which grants Section 1603 permits for stream enhancement projects, has an existing process for avoiding impacts to cultural resources from stream enhancement. For the most part, stream enhancement projects take place within the existing stream channel. As a part of the Section 1603 permit review process, the CDFG reviews the proposed enhancement project for any soil-disturbing activities on floodplain terraces above the stream high-water line. If the enhancement project will disturb the ground in these areas, CDFG conducts a records search for known archaeological sites through the CHRIS. If sites are identified or likely to exist in the affected area, CDFG contracts with a professional archaeologist to conduct surface reconnaissance in the affected area. These measures must be applied on PALCO lands and reduce effects to less than significant by avoidance or data recovery.

The California FPRs (14 CCR Section 929.3) contain special provisions in the event that a potentially significant archaeological or historical site is discovered following approval of a THP. The FPRs require that the Director, LTO, RPF, and timberland owner be notified of the discovery and that timber operations cease within 100 feet of the identified boundaries of the new site until the Director approves protection measures for the site. If the THP is altered to avoid impacts to a potentially significant archaeological or historical site, and a minor deviation to the THP is filed, CDF must notify Native Americans on the Native American Contact List and the NAHC. Furthermore, the FPRs specify that, during timber operations, "no person, except as otherwise permitted by law, who is involved in timber operations shall excavate, collect artifacts from, vandalize or loot archaeological or historical sties located within the THP" (14 CCR Section 929.6). If human remains are encountered during timber harvest operations in the Project Area, all work near the find should immediately cease until the Humboldt County coroner and the most likely descendent are consulted regarding the appropriate course of action (see also Section 3.19).

Other SYP and HCP components, such as no harvest stream buffers, may have the effect of protecting cultural resources since archaeologically sensitive areas often occur near watercourses. The larger the restricted area, the greater the potential benefit. By this token, Alternatives 1 and 3 offer the greatest potential benefit with the largest stream buffers. Alternatives 2, 2a, and 4 offer a smaller potential benefit. The number and significance of sites that may be protected are not currently known, as these lands have been only partially surveyed.

Benefits from a lower disturbance index or selection timber harvesting (Alternative 3) are expected to be insignificant since these alternatives still involve the operation of heavy logging and road construction equipment and the probable disruption of cultural resources.

Under Alternatives 2 and 3, 7,704 acres of Elk River Timber Company lands included in the land acquisition proposal would be transferred to PALCO and would, therefore, remain in private ownership. Under Alternative 4, the transferred Elk River Timber Company land would be 4,791 acres. These lands would be included in PALCO's ITP and SYP, which incorporate a variety of logging, road construction, and other activities. Elk River Timber Company land included in the land acquisition proposal was 90 percent unsurveyed. It is likely that the recorded sites on Elk River Timber Company lands represent only a portion of the total sites within the Project Area. Therefore, the degree and significance of potential effects to cultural resources are not known. Effects on the Elk River Timber Company lands would be the same regardless of whether PALCO acquires these lands (Alternatives 2, 3, and 4), or they remain under the ownership of the Elk River Timber Company (Alternatives 1 and 2a). Permitted activities under the ITP and the SYP would be the same on the PALCO lands acquired from the Elk River Timber Company as the activities on the existing PALCO lands. THPs in these lands would also be subject to CDF's CEQA-equivalent review process. Likewise, effects to cultural resources would be similar to those discussed above (i.e., no significant direct effects).

Headwaters Reserve Management

Most of the proposed Headwaters Reserve has not been surveyed for historic properties. To date, only two sites (the historic Faulk Townsite and Mill and a possible unconfirmed prehistoric village) have been recorded within the Headwaters Reserve area in the Elk River Timber Company portion (see Section 3.15.1.4). A potential indi-

rect benefit of the land acquisition proposal is that cultural resources on unlogged lands that would be included in the Headwaters Reserve, including recorded and potential unrecorded sites, would be brought under federal and state protection and would remain unlogged. Historic properties in unlogged areas have a better chance of remaining undisturbed. Sites in these areas may potentially contribute to scientific knowledge in the future.

To the degree that these reserve areas are made accessible to the public, unauthorized collection of artifacts ("pot-hunting"), vandalism, and inadvertent disturbance by recreationists may destroy or partially destroy these sites. In general, however, low impact uses of the Headwaters Reserve (e.g., hiking, bird and animal watching, and interpretive education) are expected to result in minimal indirect impacts to known and potential historic properties. The BLM may consider limiting access to the two recorded sites on the Elk River Timber Company lands and to other archaeological sites that may be discovered within the Headwaters Reserve in the future.

The Humboldt lands are currently under private ownership, and access to these lands by traditional cultural practitioners is already restricted. Traditional cultural practitioners may benefit from renewed access to lands incorporated into the Headwaters Reserve following the land acquisition. If properties of traditional religious or cultural significance are identified within the Headwaters Reserve, the BLM may consider limiting access to these areas to traditional cultural practitioners.

Under Alternatives 2 and 3, 1,764 acres of Elk River Timber Company lands included in the land acquisition proposal would be transferred to federal and state ownership and would be managed in the public trust as part of the Headwaters Reserve. For Alternative 4, there would be 4,677 acres of Elk River Timber Company land placed in the Headwaters Reserve and, therefore, managed in the public trust. As for the PALCO lands in the Headwaters Reserve, cultural resources on unlogged Elk River Timber Company lands that would be included in the Headwaters Reserve, including two recorded sites and other potential unrecorded sites, would be brought under federal protection and would remain unlogged. However, public access to these lands may result in indirect adverse effects to cultural resources. These potential indirect benefits and adverse effects, as well as potential mitigation measures, are discussed above.

Comparison of Alternatives

As noted in Section 2.5.1, the evaluation of the No Action/No Project differs under CEQA and NEPA. For CEQA the No Action alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP and site specific basis. A wide variety of mitigation measures tailored to local conditions is applied with the purpose of avoiding significant environmental effects and take of listed species. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a level of less than significant through implementation of the No Action/No Project alternative.

As noted in Section 2.5.1, the NEPA evaluation of the No Action alternative considers the implementation of wide, no-harvest RMZs as well as restrictions on the harvest of old growth redwood forest to model conditions over the short and long term. Ranges of RMZs are considered qualitatively because it is expected that adequate buffer widths could vary as a result of varying conditions on PALCO lands.

The effect to cultural resources will be less than significant under all three action alternatives, the No Elk River Timber lands

subalternative, and the No Action/No Project Alternative. This is because, under the California FPRs and CEQA, all of these alternatives would require a separate review of site-specific effects to cultural resources for each THP submitted to the state. Mitigation associated with PALCO's lands must avoid, or provide for data recovery, for significant archaeological and historic sites to reduce potential adverse effects to less than significant. Approval of PALCO's SYP by CDF and the issuance of an ITP by the federal government would not result in the state relinquishing its responsibility to evaluate and, if necessary, mitigate effects to site-specific resources that were not considered in the HCP and SYP. CDF would retain its authority to protect cultural resources that might be affected by the actions of individual THPs.

All four action alternatives (Alternatives 2, 2a, 3, and 4) are expected to result in some indirect benefits to cultural resources, since potential unrecorded and undisturbed resources in unlogged areas may be brought into federal and state protection. The benefit is expected to be greatest for Alternatives 2, 3, and 4, which include the Elk River Timber Company lands in the Headwaters Reserve.

3.15.2.4 AB 1986

If the prescriptions in section 3 of AB 1986 were included in the final HCP, state monies would be available for the purchase of the state's share of the Headwaters Reserve, as well as appropriate monies for purchase by the state of both Owl Creek and Grizzly Creek MMCAs and possibly additional tracts of forest land containing old-growth trees on the Elk River Property and in the Mattole watershed. In addition, application of prescriptions contained in section 3 of AB 1986 would result in fewer trees being available for harvest in riparian zones and areas with high risks of mass wasting. The combined effect of land acquisition and additional protection for the landscape would reduce the risk that archaeological or historic properties would be adversely affected and would potentially be beneficial by placing more such resources under public ownership.

3.15.2.5 Cumulative Environmental Effects—Cultural Resources

Neither the HCP, the SYP, nor the acquisition of public lands for management as the Headwaters Reserve is expected to result in direct adverse effects to cultural resources. Therefore, cumulative effects to cultural resources are also not anticipated to result from these project components.

Cumulative benefits may result from bringing undocumented historic properties located within the Headwaters Reserve area into the federal and state public trust. The value of historic properties is, however, location-specific. Cultural resource benefits in one location do not in any way offset or mitigate the loss of significant cultural resources in another location.

3.15.2.6 AB 1986 Conditions

Under the HCP, either the Owl Creek or the Grizzly Creek MMCA would be available for harvest. AB 1986 conditions the expenditure of state funds for acquisition of the Headwaters Forest and other lands on the inclusion of several provisions in the final HCP, the IA, and the ITPs intended to strengthen protections for covered species. Should PALCO include those provisions in the final HCP, state monies would be appropriated to the state Wildlife Conservation Board to fund the state's share of the cost of acquiring approximately 7,500 acres of private forest lands, including the Headwaters Forest. Under AB 1986, the Owl Creek MMCA would be protected from harvest for the life of the ITPs and Grizzly Creek MMCA would be protected for five years from the date of the adoption of the final HCP. AB 1986 also appropriates additional funding for the future opportunity to purchase Owl Creek. Any funds remaining

from those appropriated for the purchase of the Owl Creek MMCA could be used to purchase tracts of the Elk River Property and previously unlogged Douglas-fir forest land within the Mattole River watershed.

The state managing agency and management prescriptions are unknown and these acquisitions are somewhat speculative. Considering the legislative intent behind AB 1986, it is assumed that purchased lands would be managed similarly to the Headwaters Reserve. These anticipated acquisitions would protect old-growth and residual redwood stands and some Douglas-fir stands within these tracts in perpetuity.

The combined effect of land acquisition and additional buffers would reduce the risk that significant historical or archaeological sits would be adversely affected. Additionally, the lands that come into public ownership would protect any unknown resources that occur on them.